EFFECT OF OVERLOAD VEHICLES ON BEHAVIOR OF CABLE STAYED BRIDGES

By

Eng. Mohamed Atef Gobashy Ali

A Thesis Submitted to the

Faculty of Engineering at Cairo University

In Partial Fulfillment of the

Requirements for the Degree of

MASTER OF SCIENCE

In

STRUCTURAL ENGINEERING

FACULTY OF ENGINEERING, CAIRO UNIVERSITY

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Under the Supervision of

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FACULTY OF ENGINEERING, CAIRO UNIVERSITY
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Key Words: Cable stayed bridges steel box girder; linear finite element analysis; Distribution of Overload vehicle; Behavior of cable stayed bridges.

Summary:

This study was conducted mainly on the study of overloading on the cable stayed bridges. It was necessary to calculate the effect of overloading on the forces generated in all elements of the bridge. In this study, the internal forces in the cable stayed bridges were compared between the Egyptian Codes 2003 and 2012. Also, the effect of increasing the weights of trucks which reach 300% above the standard weight according to Egyptian code 2012 was studied and compared the forces resulting from this load with design values.

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Table of contents

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LIST OF TABLES

`

`

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`

LIST OF FIGURES

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